



Los Alamos National Laboratory Chromium Plume FAQ



What is being done to address the chromium plume at Los Alamos National Laboratory?

A network of 35 monitoring, extraction and injection wells has been installed in and around the chromium plume. These wells and associated infrastructure support efforts to characterize the plume and to halt the plume's movement via an Interim Measure (IM). In May 2018, the IM resumed along Los Alamos National Laboratory's (LANL) southern boundary with the Pueblo de San Ildefonso. Full implementation of the IM will take place in 2019. While the IM is in operation, efforts to characterize the plume and determine a final remedy will continue.

Is the plume growing?

As reported by the Department of Energy (DOE) in various documents, including the 2015 Interim Measures Work Plan, increasing chromium concentrations in some monitoring wells along the plume's southeastern edge indicate possible plume expansion. The increasing concentrations were the reason that the DOE proposed to the New Mexico Environment Department (NMED) to conduct an IM under the 2016 Compliance Order on Consent (Consent Order) to control and reduce plume migration while a final remedy is evaluated. The IM will result in the reduction of the plume footprint.

Are more monitoring wells needed to better understand the shape of the plume?

DOE currently has sufficient information to implement the IM. An additional well will be drilled to monitor changes in the plume under the IM.

Is chromium entering the Los Alamos County drinking water supply?

No. Los Alamos County's groundwater wells are all outside the chromium plume. There is no chromium

contamination in any water-supply wells. DOE supports the county by supplementing their own monitoring of the water-supply wells. Additionally, two "sentinel" monitoring wells are located between the plume and the nearest downgradient water-supply well. These sentinel wells would detect any chromium before it could reach the county's well.

Are there pathways for chromium from this plume to contaminate water-supply systems?

The actions of DOE and its cleanup contractor N3B will reduce the footprint of the plume while a permanent remedy is developed. As well, DOE and N3B are working closely with Los Alamos County to ensure that nearby water-supply wells are appropriately monitored so that the county can take action if it were to become necessary. There is no practical way for the chromium contamination to reach the Buckman Well Field (which serves as part of the water supply for the City of Santa Fe and Santa Fe County). The possibility of chromium from the plume reaching the Rio Grande is extremely unlikely, due in part to the distance of the plume to the river and because of the protective actions being taken to address the plume.

Is there a possibility chromium is being unknowingly drawn into a Los Alamos County water-supply well?

No. As well as direct monitoring of the water-supply wells, there are monitoring wells in place that would detect that.

How close is the plume to the nearest Los Alamos County water-supply well?

The nearest Los Alamos County water supply well is approximately ¼ of a mile beyond the 50 parts per billion edge of the plume.

How close is the plume to the boundary with San Ildefonso?

The southern edge of the plume is estimated to be adjacent to LANL's boundary with the Pueblo de San Ildefonso. A monitoring well downgradient of the plume on Pueblo de San Ildefonso land indicates background levels of chromium.

Has the source of chromium contamination been cut off?

A non-nuclear power plant, the source of the chromium contamination, stopped releasing water with chromium from its cooling towers in 1972. There are no active sources of chromium at LANL.

The chromium contamination was discovered in 2005. What has DOE been doing since?

Since the plume was discovered in 2005, over 25 monitoring wells have been installed to characterize and monitor the plume's behavior. Comprehensive groundwater models have been developed to guide installation of wells and to support a better understanding of the plume. The wells, treatment system, and several miles of piping necessary for the IM have also been installed. The IM was partially implemented between January and June of 2017 prior to stopping the work to build additional piping infrastructure, and restarted along the boundary with Pueblo de San Ildefonso in May 2018.

How does the Interim Measure work?

Chromium contaminated groundwater is pumped from the regional aquifer via extraction wells and piped to a centrally located treatment system that utilizes a technology called ion exchange to remove chromium from the groundwater. The treated water is then pumped to injection wells located near the downgradient edge of the plume via a network of pipes. Over time, the injection of the treated water will reduce the chromium concentrations at the edge of the plume and gradually reduce the plume's size.

When will the Interim Measure be fully active?

The IM is operational along the southern edge of the plume near the boundary with the Pueblo de San Ildefonso. Full implementation of the IM is scheduled for 2019.

What will the final strategy be for the treatment of the chromium plume?

DOE and N3B are evaluating potential technologies to remediate the plume, including introduction of amendments into the plume that would convert the chromium in place into a non-mobile and safe form. The final remedy will be proposed by DOE and is subject to public participation and approval by NMED.

When will the final remedy be implemented?

No date has been established for final remediation, however the goal of the IM is to ensure that the footprint of the chromium plume remains within the LANL boundary while the technical approach for final remedy is evaluated and approved. The timing of the final remediation will be dependent on the approach selected and a process that involves public participation and NMED approval.

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